REMARKS

In response to the Advisory Action mailed on January 15, 2004 for serial number 09/941,893, applicants have elected to file a continuation application. Toward that end, applicants submits herewith a preliminary amendment for entry prior to examination.

Applicants wishes to thank the Examiner for the courtesies extended to their attorney during the telephone conferences of November 21, 2003 and January 26, 2004, during which the proposed amended independent claims were discussed and during which the Examiner suggested some minor changes to the proposed amendments.

Consideration of the present application in view of the foregoing amendments and the following remarks is respectfully requested. By this amendment, the applicants have amended claims 1, 6, 16, 20, 24-25, 28-30 and 37-38 and canceled claims 9 and 32, as discussed with the Examiner. Thus, claims 1-8, 9-31 and 32-43 remain in the application.

As recently discussed, at page 14 lines 24-27 of the specification, support for the feature added to claims 1 and other claims can be found. In our view, in order for the disclosed apparatus and methods to be operative, the tightening nut 74 and protector plate 76 illustrated in Figure 3, and in other figures, must be removed from the upper end of the center post 30 and replaced by the components of the attachment member which are sized to be smaller than the central aperture of the a least one filtered discount or stacks of cell-type filter cartridges.

The relevance of this feature is clearly illustrated at page 15 lines 1-12 and in Figure 7, which shows the center post member being separated from the at least one filter disk to facilitate the discarding of the used cartridges of multiple filter disks and the preparation of the center post disk handling apparatus 10 for use in another operation.

Specifically, it is believed none of the currently applied references discloses, suggests or teaches the structure having this particular configuration. Thus, we believe that the presently presented claims are allowable over the prior art references of record.

With respect to amended claim 16, the amendments to this claim are directed toward eliminating the cleaning obstacles associated with the prior art housings, as stated at page 15 lines 23-32 and page 16, lines 1-15. Thus, the additional feature providing a substantially direct flow path for the fluid resulting from the removal of the central post assembly clearly facilitates the cleaning of the interior chamber of the housing, features not believe disclosed, suggested or taught in the prior art references of record.

With respect to amended claims 24, 25 and 38, the feature of the attachment member having it outside dimensions smaller than a central aperture of a filter desk or cartridge stack, as discussed above relative to claim 1, is believed distinguishing over the prior art references of record.

As recently discussed with the Examiner, the Preliminary International Examination Report received from the European Patent Office indicated that the original claim 9 was patentable. Specifically, the European Examiner stated as follows: "The particular dimensions of the attachment member according to claim 9 is clearly differentiated from the teachings of D1 (Tournaire). In the absence of any related further prior art disclosure, claim 9 meets also the requirements of Art. 33(3) PCT".

As presented to the European Examiner, the prior art reference to Tournaire appears to concern the construction of the plates and their tightening by means of a central rod which can be dismantled. The ability to tighten the stack of plates and filtering media from the outside is apparently very useful according to the reference.

This ability to tighten the stack of plates and filtering media from the outside is very different than the present disclosure where pre-assembled cell type filter cartridges are used instead of the individual plates and filter media, and the central rod (aka post) is a single piece that can't be dismantled into two pieces, as expressly shown in the prior art reference. The central rod does play a role in the tightening (sealing) of the present disclosure's filter cartridges, but does so differently than in the prior art reference.

Specifically a seal device is installed in contact with the filter cartridges at the upper end of the central rod and tightened via threads located in the seal device and on the central rod. The central rod never moves relative to the housing during this tightening, unlike that shown in the prior art reference. This tightening is also carried out prior to use of the filter cartridges (pressurization of the housing) and no further tightening is required during use. Therefore, the use of filter cartridges allows the incorporation of the seal device within the housing without the need for the external tightening feature of the prior art reference. This greatly simplifies the design as disclosed in the present application.

The encased filter per the prior art reference comprises a two-piece central tie rod, the upper piece of the rod affixed to the filtration block, and the lower piece of the rod affixed to the bell case (aka housing base). Means located on the lower side of the tie rod enable the two pieces to be coupled and uncoupled from the outside of the housing. A ratchet mechanism is used to (un)couple the two pieces of the tie rod and to bring the tie rod under tension to tighten the stack of plates and filter papers.

The present disclosure uses a one-piece central rod, which can be considered "affixed" to the filter cartridges (filter block) for installation and removal from the housing as a single entity. In the design disclosed in the present application, the adapter connected to the lower end of the central rod is the "means" to couple the central rod directly to the housing base. The assembly step is very simple as the adapter just plugs-into the mating insert in the base. Tightening (sealing) of the filter cartridges is carried out at the other end of the central rod as explained in the previous section. No further (un)coupling steps are required outside of the housing like in the prior art reference, i.e. two ratchets to thread the two central

rods together and then to tighten the stack. Overall, the disclosure of the present application uses considerably fewer components and is a simpler design to produce and use.

While the Examiner may consider that the adapter is essentially serving the same function as the coupler (item 6) in the prior art Tournaire reference, however, the adapter as disclosed in the present application has much greater functionality than the coupler disclosed in the prior art Tournaire reference. Besides connecting the central rod to the housing base, the adapter also supports at least one filter disc, contains the o-rings that seal the filter block to the housing base and has at least one flow aperture. The coupler disclosed in the prior art Tournaire reference only connected the two tie rods together but did not support any of the filter plates, did not contain the filter block to housing base seal, and had no flow apertures through it.

Further, the central tie rod is maintained watertight by a gland fitted with a stud in the prior art reference and Figure 6 shows the gland is located in the outlet pipe of the housing base. Figure 5 shows the filter block in a "removed" state from the housing base and that the lower tie rod remains in the outlet pipe of the housing base.

The design disclosed in the present application does not require the central rod to exit the housing and therefore no seal gland is required. This enables the insert (which also serves as the outlet pipe) to be a continuous smooth polished surface. This is a significant benefit for pharmaceutical applications, as stated on page 17, line 26 of the present application, where lack of crevices, excellent surface finish and ease of cleaning are very important. Many pharmaceutical customers are moving to automatic clean-in-place (CIP) systems to replace manual cleaning of the housings, see page 16, lines 14-15. The innovation disclosed in the present application suits CIP very well while the housing design disclosed in the prior art reference would not be suitable for CIP since it has known crevices, i.e. gland area, difficult to access places, i.e. outlet pipe with tie rod installed, and tough to clean surfaces, i.e. threads at top of tie rod.

While the prior art patent apparently never specifically discloses how the filter block (lowermost plate) is sealed to the housing base, Figure 5 appears to show two grooves located on the lower surface of a plate that align with two flat surfaces in the housing base. Although not shown, it is assumed that gaskets are installed in these two locations, and that the seal between the lowermost plate and the housing base is generated during the tightening of the plates. Therefore, this seal would be very dependent upon maintaining sufficient tightness of the plates, otherwise bypass of unfiltered fluid will occur. The design disclosed in the present application utilizes an o-ring piston seal design, which is very reliable for critical applications and completely independent of the tightness applied to the filter cartridges. This type of seal is generated by the squeeze applied to the o-ring as it is captured between the groove diameter of the adapter and the bore diameter of the insert.

Concerning the entrance of this amendment after final rejection, we believe that prosecution of this application will be greatly facilitated if such entry were to be granted. Further, we believe that the addition of certain features, as described above, clearly patentably differentiates over the prior art references of record, as acknowledged by the European Patent Office Examiner and would welcome the opportunity to further explain our specific reasoning related thereto.

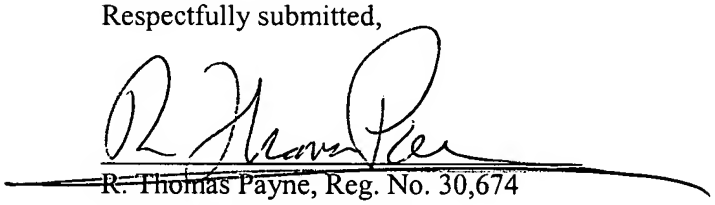
Since no new unexamined material has been added to the claims other than to take the subject matter of certain dependent claims, as acknowledged by the European Patent Office Examiner as being allowable, and combine that subject matter with the original independent claims, applicants submit that no new search would be required and that the above explanation has most likely resulted in a better understanding of the subject matter of the claims by both the Examiner. Further, since applicants have canceled some claims, the issues that the Examiner must consider have been reduced and applicants submit that the entrance of this amendment places the application in condition of allowance and would in fact reduce the burden on the Patent Office.

Thus, after entry of the above amendments, it is applicants' position that the application is now in condition for allowance and an action acknowledging same is respectfully requested.

If after reviewing this amendment, should the Examiner have questions or require additional information, she is cordially invited to call the undersigned attorney, so this case may receive an early notice of allowance. Such action is earnestly solicited.

Any fees or charges due as a result of filing the present paper may be charged against Deposit Account No. 033879.

Respectfully submitted,



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